

congratulate him for bringing this subject to our attention.

Roland Skeel, Los Angeles—I think that for five or ten years now we have swung entirely too far away from the idea of drainage. If we knew every infection were due to gonococci, we might easily get away without it. I want to ask Dr. Girard if he did not mean "damming" instead of draining. Drainage, after all, is not keeping the normal organs out of the way from the surface of the pelvis. I am pleased with his instrument. To keep the intestine from the infected area is the most important thing about drainage. That can be done on the table; running iodoform gauze down and pressing it through the cul-de-sac and then spreading it out until it forms a perfect mat for the intestine to rest upon. It prevents post-operative obstruction many, many times. This instrument seems to take the place of that. The paper is excellent.

James Percy, San Diego—I would like to speak of the kind of material used for drainage. I am always sorry for anyone that uses anything but rubber dam for drainage material. I have used it for ten or twelve years, and I cannot understand why everyone doesn't use it. It does not cost very much, and you can put yards of it in the abdomen without doing harm. I do not care how much fluid there is in the abdomen, the vast majority of patients get well. One factor about the use of rubber dam that was pointed out by Dr. Pope of San Francisco is to be careful to wash off the starch that is put on the ordinary rubber dam. He made this point in reference to rubber gloves. He taught us years ago that in pelvic post-operative adhesions you could find starch right between the two surfaces. I have learned a lot of these things in the gruelling experience of repeated operations upon patients with cancer. These recurrent cancer operations necessitate finding some way to get down into the pelvis without spending one-half or three-quarters of an hour, avoiding the tearing through adhesions. I have reached this by using rubber dam at the first operation, and by removing the starch from my gloves. I have enjoyed the paper very much.

Frank R. Girard (closing)—In answer to the question asked about sterilization of the gauze I use, I want to state that it is easily sterilized. That piece of gauze that I passed around was sterilized four successive days, to see how much sterilization it could stand. You can see that it has not been impaired by being sterilized in an autoclave. It is often used on burns to keep the cotton from sticking to the burned surfaces. I have used it with the same idea to keep the omentum and intestine from adhering to the large denuded areas in the pelvis. Regarding Dr. Skeel's suggestion with reference to the combined damming back or walling off, I think the suggestion is a good one. This gauze does not adhere to the raw surfaces of the pelvis and my assistants have been very much pleased with the ease with which this gauze can be removed as compared with the removal of other material. Dr. Percy's criticism about using rubber dam is answered in my paper. Rubber dam can be used instead of this gauze, but I have explained the advantages of using gauze as compared to rubber dam. I do not agree with Dr. Percy; I think that these cases should not be drained through the abdomen, but should be drained through the vagina. By the use of vaginal drainage, we get a natural drainage and do not keep the patient in the hospital weeks with dressings. Patients get out of bed very often just as soon as any other laparotomy case or one healed by primary union. Furthermore, the patient has not the pain nor the discomfort accompanying abdominal drains, and does not need the attention of the nurses that a larger abdominal drain does. There seem to be many advantages in drainage through the vagina over that of the abdominal route.

THE PIRQUET SYSTEM AND AMERICAN REQUIREMENTS *

By WILLIAM E. CARTER, M. D., Los Angeles

When this subject is brought under discussion a few pertinent questions come to mind:

First—What does the system consist of and wherein does it differ from other systems?

Second—Where and how has it been applied?

Third—Has America met her obligations in the matter of guaranteeing a sufficient nutritional status of her school children by using any other system?

Fourth—Could this system be applied to American conditions?

The first two questions are covered by other papers on this program. At once it becomes apparent that the subject consists of more than another designation for the food unit, "the nem," or another index for indicating the child's nutritional status, "the pelidisi." The system encompasses the basic and all important matter of the actual administration of food to children. Spurred by necessity, the Austrians in particular have applied the system with satisfaction to feeding their child population. Observers in central Europe are invariably impressed with the facility, the efficiency and the economy of the work of the American Relief Administration in applying Pirquet's method.

The answer is obvious to the third question, "Has America met her obligations in the matter of guaranteeing a sufficient nutritional status of her school children by using any other system?" Reports come from all parts of the country that a surprising number of American school children are undernourished. A comparison of the inadequate noonday meal of the American school child and the hot, well-balanced, palatable, midday feeding of the Austrian child affords a considerable reason why American school children show a level of malnutrition almost equal to that found in European children. It may be admitted that other factors, such as the removal of remediable defects, enter into the equation, but after excluding these agents, the observer is impressed with the fact that the administration of an ample noonday ration is very often sufficient to change the undernourished child into a well-nourished one. No, America is not meeting her responsibilities in this direction. There are a few spasmodic attempts being made here and there, in the form of cafeteria lunches, mid-forenoon milk feedings, and the midday meals for tuberculous children; but there are few rational efforts being made to overcome, in a comprehensive way, one of the school child's growth handicaps—namely, the insufficient noon-day meal.

The fourth inquiry, "Can the Pirquet system be applied to America's problem?" requires some detailed consideration. The accuracy of the "pelidisi" as an index to the nutritional status has been questioned by some very competent observers. In this connection it may be said that the Wood's

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tables, in common use, are defective and that so far, no mathematical formula has been devised which is truly accurate and which is applicable to all persons. The individual variation can not be calculated by rule. But after making physical examination of several thousand children in this country and abroad and comparing their physical status with their nutritional index, the "pelidisi," the writer is impressed with the practicability of the scheme. There is a strikingly constant relationship between the "pelidisi" and the physical findings, which latter Pirquet symbolizes with the phrase "sacratama." For all practical purposes, the "pelidisi" affords an effectual working rule.

The "sacratama" is very acceptable both in clinic and in office, but particularly is it useful when examining large numbers of children and making a record of the findings. At first blush it may appear confusing, but in actual operation it is simplicity itself. As to the unit of food measurement, the "nem," the writer believes it is much simpler and more comprehensible to the uninitiated, and that it is just as accurate as a unit of measurement as is the calorie. However, the fact that the calorie is already fairly well established in American usage may make the substitution of the "nem" difficult and undesirable.

It appears that the Pirquet system can be applied, with appropriate modifications, to American conditions. The exigencies of war no longer exist and the attitude of the people would not permit the strict disciplinary measures, applied abroad, which are inherent in this method. But it should not be forgotten that the outstanding feature of the system is the fact that children are fed a well-balanced, sufficient, midday ration, and that their weight curves bear eloquent testimony to its effectiveness. In America there is an abundance of food, and facilities for the feeding of school children in a comprehensive way could be developed readily. The dairy lunch rooms which serve food prepared at a central kitchen may give us an illustration how the thing may be done. Materials could be bought at wholesale prices, the recipes and menus could be provided by dieticians on physician's prescriptions, and the food could be cooked in central kitchens. From these kitchens it could be delivered hot, in double-walled containers, to the schools and there dispensed by volunteers or even by paid assistants. The cost of a meal so prepared would be less than that at which the mother could provide the food herself. It is to be hoped that those interested in school feeding programs may be able to do as much for our own children in this respect as has been done for the children of central Europe.

SUMMARY

American school children show a startling percentage of malnutrition. The well-balanced midday meal, properly administered, has been proved to be helpful. Our present haphazard methods of feeding school children are not entirely satisfactory in producing a general improvement. There should be little difficulty in applying a modified Pirquet system.

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THE USE OF THE PUPILLOSCOPE IN NEUROLOGY *

By H. G. MEHRTENS, M. D., and OTTO BARKAN, M. D.,
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The Argyll-Robertson pupil has for many years been considered almost pathognomonic for neurosyphilis. True, of late years some questions have been raised as to the possibility of other conditions, viz., trauma and encephalitis, simulating that phenomenon. Its usefulness as a sign was considerably impaired by the lack of a standard method of eliciting the sign. It is well-known that the results of examinations by different clinicians of the same case will contain such misleading statements as "sluggish," "doubtful," "normal," "present" or "questionable." It also was impossible to register the degree of pupillary involvement so that it could be compared at some future time with a repeated reading.

In the Differential Pupilloscope of Von Hess all sources of error have been eliminated and a very exact quantitative method inaugurated. The aim of the instrument is to determine the sensibility of the pupil to successive differences of light. The patient's eye is observed through a telescope of eight magnifications. From a constant source of illumination a beam of light is cast upon the eye. This beam of light is made to traverse a frame which consists of two compartments. The upper compartment contains a gray glass of known permeability to light. The lower contains two gray prisms which are calibrated and can be superimposed, one on the other, to any desired extent, by means of a micrometer screw. The amount of light passing through the lower compartment is varied by changing the position of the prism. The frame is then swung up and down so that the beam of light passes successively through the upper and the lower compartments. When the permeability of the compartments is equal we are illuminating the eye with a constant beam of light. By changing the permeability of the lower compartment it is in our power to illuminate the eye with any desired difference of light. We now determine the least difference of light which just suffices to elicit reaction of the pupil and this difference of light is a numerical index of the sensibility of the pupil and, therefore, of the pupillary reflex arc. The prisms are most permeable to light at their apices and least at their bases so that the permeability of the systems of prisms varies according to the positions of the superimposed portions. The position of the prisms and the amount of light passing through are shown on the micrometer scale and we can thus measure accurately the amount of light necessary to secure reactivity of the pupil. The smallest difference of light intensities between which the normal pupil can distinguish is as 95 to 100. The value is constant, is irrespective of the age of the individual and is independent of the state of adaptation. The lowest limit of the physiological index is 0.88. Diminution of the index to 0.86 is definitely pathological, but a pupillary lesion of

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